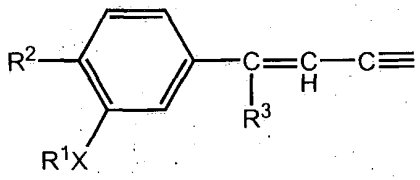
What is claimed is:

1. A substantially pure (E)-compound, a substantially pure (Z)-compound, or a mixture of (E)- and (Z)-compounds having the formula (I):



(I)

wherein:

(a) X is -O- or -(C_nH_{2n})- in which *n* has a value of 0, 1, 2, or 3, and R^1 is selected from the group consisting of any alkyl of up to 10 carbon atoms, any monocycloalkyl of up to 10 carbon atoms, any polycycloalkyl of up to 10 carbon atoms, and any benzocyclic alkyl of up to 10 carbon atoms, or

(b) X is -CH=, and R^1 is any alkylidene of up to 10 carbon atoms or any monocycloalkylidene of up to 10 carbon atoms;

R^2 is hydrogen, nitro, cyano, trifluoromethyl, carbethoxy, carbomethoxy, carbopropoxy, acetyl, carbamoyl, acetoxy, carboxy, hydroxy, amino, lower alkyl, lower alkoxy, or halo; and

R^3 is (*i*) phenyl or naphthyl, each unsubstituted or substituted with 1 or more substituents each selected independently from the group consisting of a nitro, a cyano, a halo, a trifluoromethyl, a carbethoxy, a carbomethoxy, a carbopropoxy, an acetyl, a carbamoyl, a carbamoyl substituted withan alkyl of 1 to 3 carbon atoms, an acetoxy, a carboxy, a hydroxy, an amino, an amino substituted with an alkyl of 1 to 5 carbon atoms, an alkyl or cycloalkyl of 1 to 10 carbon atoms, and an alkoxy or cycloalkoxy of 1 to 10 carbon atoms; (*ii*) phenyl substituted with 1 or more substituents each selected independently from the group consisting of an alkylidenemethyl of up to 10

carbon atoms, a cycloalkylidenemethyl of up to 10 carbon atoms, a phenyl, and a methylenedioxy; (*iii*) cycloalkyl of 4 to 10 carbon atoms, unsubstituted or substituted with one or more substituents each selected independently from the group consisting of a nitro, a cyano, a halo, a trifluoromethyl, a carbethoxy, a carbomethoxy, a carbopropoxy, an acetyl, a carbamoyl, an acetoxy, a carboxy, a hydroxy, an amino, an amino substituted with an alkyl of 1 to 5 carbon atoms, an alkyl of 1 to 10 carbon atoms, an alkoxy of 1 to 10 carbon atoms, and a phenyl; or (*iv*) pyridine, substituted pyridine, pyrrolidine, imidazole, or thiophene.

2. The compound or mixture of claim 1, wherein:

X is -O- or -(C_nH_{2n})- in which *n* has a value of 0, 1, 2, or 3;

R^1 is any alkyl of up to 10 carbon atoms, any monocycloalkyl of up to 10 carbon atoms, any polycycloalkyl of up to 10 carbon atoms, or any benzocyclic alkyl of up to 10 carbon atoms;

R^2 is hydrogen, nitro, cyano, trifluoromethyl, carbethoxy, carbomethoxy, carbopropoxy, acetyl, carbamoyl, acetoxy, carboxy, hydroxy, amino, lower alkyl, lower alkoxy, or halo; and

R^3 is (*i*) phenyl or naphthyl, each unsubstituted or substituted with 1 or more substituents each selected independently from the group consisting of a nitro, a cyano, a halo, a trifluoromethyl, a carbethoxy, a carbomethoxy, a carbopropoxy, an acetyl, a carbamoyl, a carbamoyl substituted withan alkyl of 1 to 3 carbon atoms, an acetoxy, a carboxy, a hydroxy, an amino, an amino substituted with an alkyl of 1 to 5 carbon atoms, an alkyl or cycloalkyl of 1 to 10 carbon atoms, and an alkoxy or cycloalkoxy of 1 to 10 carbon atoms; (*ii*) phenyl substituted with 1 or more substituents each selected independently from the group consisting of an alkylidenemethyl of up to 10 carbon atoms, a cycloalkylidenemethyl of up to 10 carbon atoms, a phenyl, and a methylenedioxy; (*iii*) cycloalkyl of 4 to 10 carbon atoms, unsubstituted or

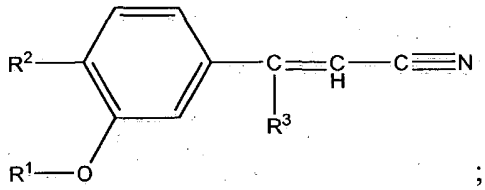
substituted with one or more substituents each selected independently from the group consisting of a nitro, a cyano, a halo, a trifluoromethyl, a carbethoxy, a carbomethoxy, a carbopropoxy, an acetyl, a carbamoyl, an acetoxy, a carboxy, a hydroxy, an amino, an amino substituted with an alkyl of 1 to 5 carbon atoms, an alkyl of 1 to 10 carbon atoms, an alkoxy of 1 to 10 carbon atoms, and a phenyl; or (*iv*) pyridine, substituted pyridine, pyrrolidine, imidazole, or thiophene.

3. The compound or mixture of claim 2, wherein:

R^2 is hydrogen, nitro, cyano, trifluoromethyl, amino, lower alkyl, lower alkoxy, or halo; and

R^3 is (*i*) phenyl or naphthyl, each unsubstituted or substituted with 1 or more substituents each selected independently from the group consisting of a nitro, a cyano, a halo, a trifluoromethyl, a carbethoxy, a carbomethoxy, a carbopropoxy, an acetyl, a carbamoyl, a carbamoyl substituted withan alkyl of 1 to 3 carbon atoms, an acetoxy, a carboxy, a hydroxy, an amino, an amino substituted with an alkyl of 1 to 5 carbon atoms, an alkyl or cycloalkyl of 1 to 10 carbon atoms, and an alkoxy or cycloalkoxy of 1 to 10 carbon atoms; (*ii*) phenyl substituted with 1 or more substituents each selected independently from the group consisting of an alkylidenemethyl of up to 10 carbon atoms, a cycloalkylidenemethyl of up to 10 carbon atoms, a phenyl, and a methylenedioxy; (*iii*) cycloalkyl of 4 to 10 carbon atoms, unsubstituted or substituted with one or more substituents each selected independently from the group consisting of a nitro, a cyano, a halo, a trifluoromethyl, a carbethoxy, a carbomethoxy, a carbopropoxy, an acetyl, a carbamoyl, an acetoxy, a carboxy, a hydroxy, an amino, an amino substituted with an alkyl of 1 to 5 carbon atoms, an alkyl of 1 to 10 carbon atoms, an alkoxy of 1 to 10 carbon atoms, and a phenyl; or (*iv*) pyridine, substituted pyridine, pyrrolidine, imidazole, or thiophene.

4. The compound or mixture of claim 1, wherein the compound formula (I) is:



;

R^1 is alkyl of up to 10 carbon atoms;

R^2 is hydrogen, trifluoromethyl, lower alkyl, or lower alkoxy; and

R^3 is (*i*) phenyl or naphthyl, each unsubstituted or substituted with 1 or more substituents each selected independently from the group consisting of a nitro, a cyano, a halo, a trifluoromethyl, a carbethoxy, a carbomethoxy, a carbopropoxy, an acetyl, a carbamoyl, a carbamoyl substituted withan alkyl of 1 to 3 carbon atoms, an acetoxy, a carboxy, a hydroxy, an amino, an amino substituted with an alkyl of 1 to 5 carbon atoms, an alkyl or cycloalkyl of 1 to 10 carbon atoms, and an alkoxy or cycloalkoxy of 1 to 10 carbon atoms; (*ii*) phenyl substituted with 1 or more substituents each selected independently from the group consisting of an alkylidenemethyl of up to 10 carbon atoms, a cycloalkylidenemethyl of up to 10 carbon atoms, a phenyl, and a methylenedioxy; (*iii*) cycloalkyl of 4 to 10 carbon atoms, unsubstituted or substituted with one or more substituents each selected independently from the group consisting of a nitro, a cyano, a halo, a trifluoromethyl, a carbethoxy, a carbomethoxy, a carbopropoxy, an acetyl, a carbamoyl, an acetoxy, a carboxy, a hydroxy, an amino, an amino substituted with an alkyl of 1 to 5 carbon atoms, an alkyl of 1 to 10 carbon atoms, an alkoxy of 1 to 10 carbon atoms, and a phenyl; or (*iv*) pyridine, substituted pyridine, pyrrolidine, imidazole, or thiophene.

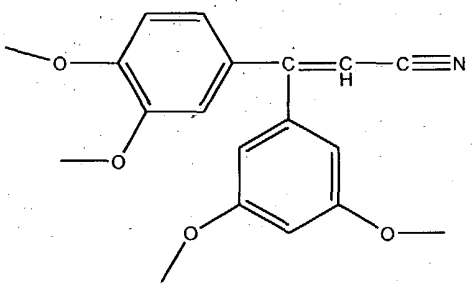
5. The compound of claim 4, wherein:

R^1 is methyl or ethyl;

R^2 is methoxy or ethoxy;

R^3 is (*i*) phenyl or naphthyl, each unsubstituted or substituted with 1 or more substituents each selected independently from the group consisting of a nitro, a cyano, a halo, a trifluoromethyl, a carbethoxy, a carbomethoxy, a carbopropoxy, an acetyl, a carbamoyl, a carbamoyl substituted withan alkyl of 1 to 3 carbon atoms, an acetoxy, a carboxy, a hydroxy, an amino, an amino substituted with an alkyl of 1 to 5 carbon atoms, an alkyl or cycloalkyl of 1 to 10 carbon atoms, and an alkoxy or cycloalkoxy of 1 to 10 carbon atoms; (*ii*) phenyl substituted with 1 or more substituents each selected independently from the group consisting of an alkylidenemethyl of up to 10 carbon atoms, a cycloalkylidenemethyl of up to 10 carbon atoms, a phenyl, and a methylenedioxy; (*iii*) cycloalkyl of 4 to 10 carbon atoms, unsubstituted or substituted with one or more substituents each selected independently from the group consisting of a nitro, a cyano, a halo, a trifluoromethyl, a carbethoxy, a carbomethoxy, a carbopropoxy, an acetyl, a carbamoyl, an acetoxy, a carboxy, a hydroxy, an amino, an amino substituted with an alkyl of 1 to 5 carbon atoms, an alkyl of 1 to 10 carbon atoms, an alkoxy of 1 to 10 carbon atoms, and a phenyl; or (*iv*) pyridine, substituted pyridine, pyrrolidine, imidazole, or thiophene.

6. A substantially pure (E)-compound, a substantially pure (Z)-compound, or a mixture of (E)- and (Z)-compounds having the formula (II):



(II).

7. The compound of claim 1 wherein the compound is selected from:

3,3-*bis*-(3,4-dimethoxyphenyl)acrylonitrile;

3,3-*bis*-(3-ethoxy-4-methoxyphenyl)acrylonitrile;

3-(3-propoxy-4-methoxyphenyl)-3-phenylacrylonitrile;

3-(3-ethoxy-4-methoxyphenyl)-3-phenylacrylonitrile;

3,3-*bis*-(3-cyclopentoxy-4-methoxyphenyl)acrylonitrile;

3-(3-cyclopentoxy-4-methoxyphenyl)-3-phenylacrylonitrile;

3-(3,4-dimethoxyphenyl)-3-phenylacrylonitrile;

3-(3,4-Dimethoxyphenyl)-3-(3',5'-dimethoxyphenyl)-
acrylonitrile;

3-(3, 4-Dimethoxyphenyl)-3-(3-ethoxy-4-methoxyphenyl)acrylonitrile;

3-(3,4-Dimethoxyphenyl)-3-(3'-nitrophenyl)acrylonitrile;

3-(3'-Aminophenyl)-3-(3,4-dimethoxyphenyl)acrylonitrile;

3-(3,4-Dimethoxyphenyl)-3-(4-nitrophenyl)acrylonitrile;

3-(4-Aminophenyl)-3-(3,4-dimethoxyphenyl)acrylonitril;

3-(4-Aminophenyl)-3-(3,4-dimethoxyphenyl)acrylonitrile;

3-(4-Biphenylyl)-3-(3,4-dimethoxyphenyl)acrylonitrile;

3-(3,4-Dimethoxyphenyl)-3-(4'-fluorophenyl)acrylonitrile;

3-(3,4-Dimethoxyphenyl)-3-naphth-2-ylacrylonitrile;

3-(3,4-Dimethoxyphenyl)-3-(3,4-methylenedioxyphenyl)acrylonitrile;

3-(3,4-Dimethoxyphenyl)-3-pyridin-4-ylacrylonitrile;

3-(3,4-Dimethoxyphenyl)-3-pyridin-2-ylacrylonitrile;

3-(3,4-Dimethoxyphenyl)-3-(2-furyl)acrylonitrile;

3-(3,4-Diethylphenyl)-3-phenylacrylonitrile;

3-(3,4-Diethylphenyl)-3-(3,4-dimethoxyphenyl)acrylonitrile;

3-(3,4-Dimethoxyphenyl)-3-(naphth-1-yl)acrylonitrile; and

3-(3,4-Dimethoxyphenyl)-3-(2,5-dichlorophenyl)acrylonitrile.

8. A method which comprises administering to a mammal an amount of a compound or mixture according to claim 1, said amount being effective to mediate the action of a phosphodiesterase.

9. The method of claim 8, wherein said phosphodiesterase is a phosphodiesterase selected from the group consisting of PDE III and PDE IV.

10. A method which comprises administering to a mammal an amount of a compound or a mixture according to claim 1, said amount being effective to mediate the formation or action of TNFα.

11. A method which comprises administering to a mammal an amount of a compound or a mixture according to claim 1, said amount being effective to mediate the formation or action of NFκB.

12. A pharmaceutical composition comprising a compound or mixture according to claim 1.

13. A method which comprises administering to a mammal an amount of a compound or mixture according to claim 1, said amount being effective for treating one or more conditions selected from the group consisting of septic shock, sepsis, endotoxic shock, hemodynamic shock and sepsis syndrome, post ischemic reperfusion injury, malaria, mycobacterial infection, meningitis, psoriasis, congestive heart failure, fibrotic disease, cachexia, graft rejection, cancer, autoimmune disease, opportunistic infections in AIDS, rheumatoid arthritis, rheumatoid spondylitis, osteoarthritis, other arthritic conditions, Crohn's disease, ulcerative colitis, multiple sclerosis, systemic lupus erythrematosis, ENL in leprosy, radiation damage, asthma, and hyperoxic alveolar injury.

14. A method which comprises administering to a mammal an amount of a compound or mixture according to claim 1, said amount being effective for treating cancer.

15. A method which comprises administering to a mammal an amount of a compound or mixture according to claim 1 in combination with a second pharmaceutical agent, said amount being effective for treating cancer.

16. A compound of claim 1 that is an (E)-compound.

17. A compound of claim 1 that is a (Z)-compound.

18. A mixture of claim 1 comprising both (E)- and (Z)- compounds.

19. A method which comprises administering to a mammal an amount of a compound or mixture according to claim 4, said amount being effective to mediate the action of a phosphodiesterase.

20. The method of claim 19, wherein said phosphodiesterase is a phosphodiesterase selected from the group consisting of PDE III and PDE IV.

21. A method which comprises administering to a mammal an amount of a compound or a mixture according to claim 4, said amount being effective to mediate the formation or action of TNFα.

22. A method which comprises administering to a mammal an amount of a compound or a mixture according to claim 4, said amount being effective to mediate the formation or action of NFκB.

23. A pharmaceutical composition comprising a compound or mixture according to claim 4.

24. A method which comprises administering to a mammal an amount of a compound or mixture according to claim 4, said amount being effective for treating one or more conditions selected from the group consisting of septic shock, sepsis, endotoxic shock, hemodynamic shock and sepsis syndrome, post ischemic reperfusion injury, malaria, mycobacterial infection, meningitis, psoriasis, congestive heart failure, fibrotic disease, cachexia, graft rejection, cancer, autoimmune disease, opportunistic infections in AIDS, rheumatoid arthritis, rheumatoid spondylitis, osteoarthritis, other arthritic conditions, Crohn's disease, ulcerative colitis, multiple sclerosis, systemic lupus erythrematosis, ENL in leprosy, radiation damage, asthma, and hyperoxic alveolar injury.

25. A method which comprises administering to a mammal an amount of a compound or mixture according to claim 4, said amount being effective for treating cancer.

26. A method which comprises administering to a mammal an effective amount of a compound or mixture according to claim 4 in combination with a second pharmaceutical agent, said amount being effective for treating cancer.

27. A compound of claim 4 that is an (E)-compound.

28. A compound of claim 4 that is a (Z)-compound.

29. A mixture of claim 4 comprising both (E)- and (Z)- compounds.

30. A method which comprises administering to a mammal an amount of a compound or mixture according to claim 6, said amount being effective to mediate the action of a phosphodiesterase.

31. The method of claim 30, wherein said phosphodiesterase is a phosphodiesterase selected from the group consisting of PDE III and PDE IV.

32. A method which comprises administering to a mammal an amount of a compound or a mixture according to claim 6, said amount being effective to mediate the formation or action of TNFα.

33. A method which comprises administering to a mammal an amount of a compound or a mixture according to claim 6, said amount being effective to mediate the formation or action of NFκB.

34. A pharmaceutical composition comprising a compound or mixture according to claim 6.

35. A method which comprises administering to a mammal an amount of a compound or mixture according to claim 6, said amount being effective for treating one or more conditions selected from the group consisting of septic shock, sepsis, endotoxic shock, hemodynamic shock and sepsis syndrome, post ischemic reperfusion injury, malaria, mycobacterial infection, meningitis, psoriasis, congestive heart failure, fibrotic disease, cachexia, graft rejection, cancer, autoimmune disease, opportunistic infections in AIDS, rheumatoid arthritis, rheumatoid spondylitis, osteoarthritis, other arthritic conditions, Crohn's disease, ulcerative colitis, multiple sclerosis, systemic lupus erythrematosis, ENL in leprosy, radiation damage, asthma, and hyperoxic alveolar injury.

36. A method which comprises administering to a mammal an amount of a compound or mixture according to claim 6, said amount being effective for treating cancer.

37. A method which comprises administering to a mammal an effective amount of a compound or mixture according to claim 6 in combination with a second pharmaceutical agent, said amount being effective for treating cancer.

38. A compound of claim 6 that is an (E)-compound.

39. A compound of claim 6 that is a (Z)-compound.

40. A mixture of claim 6 comprising both (E)- and (Z)- compounds.